REMARKS

Favorable reconsideration of the subject application is respectfully requested in view of the following remarks.

Priority

The Action acknowledges Applicants' claim for domestic priority under 35 U.S.C. 120 or 121 to US Application Nos. 09/356,643 filed on July 19, 1999 and 08/939,309 filed on September 29, 1997. The Action reminds the Applicant that in order to satisfy the conditions for receiving the benefit of an earlier filing date under 35 U.S.C. § 120, an application in which the benefits of an earlier application are desired must contain a specific reference to the prior application(s) in the first sentence of the specification or in an application data sheet (emphasis added). The specific reference to any prior nonprovisional application must include the relationship (*i.e.*, continuation, divisional or continuation-in-part) between the applications except when the reference is to a prior application of a CPA assigned the same application number.

Applicants thank the Examiner for noting requirements for satisfying conditions for receiving the benefit of an earlier filing date under 35 U.S.C. § 120. Applicants submit that the claim for domestic priority in the present application has been made by specific reference to the prior applications noted above in an application data sheet rather than in the text of the specification. For the Examiner's convenience a copy of the ADS as originally filed is enclosed.

Rejections Under 35 U.S.C. § 112, First Paragraph (Enablement)

Claims 4-6 stand rejected under 35 U.S.C. § 112, first paragraph. The Action concedes that the specification is enabling for a method for identifying an agent that modulates the sphingosine-1-phosphate lyase activity of the polypeptide of SEQ ID NO:8, but alleges that the specification does not reasonably provide enablement for a method for identifying an agent that modulates the sphingosine-1-phosphate lyase activity of a structural (*i.e.* sequence) homolog of the polypeptide of SEQ ID NO:8. In particular, while the Action acknowledges that the specification discloses the structure and function of the polypeptide of SEQ ID NO:8 and also

teaches other S-1-P lyases, the Action alleges that the specification fails to disclose the critical structural elements required of any polypeptide in order for it to exhibit lyase activity or to teach which amino acids of SEQ ID NO:8 can be modified. Accordingly, the Action asserts that the specification does not enable a person skilled in the art to make and/or use the invention commensurate in scope with the instant claims.

Applicants respectfully traverse this rejection on the following grounds.

A specification is presumed to be enabling and the U.S. Patent and Trademark Office (PTO) has the burden of establishing a *prima facie* case of lack of enablement. *See, In re Angstadt*, 190 U.S.P.Q. 214, 219 (C.C.P.A. 1976); *In re Marzocchi*, 169 U.S.P.Q. 367, 369-370 (C.C.P.A. 1971). To make a *prima facie* case of lack of enablement, the PTO must come forward with *reasons*, supported by the record as a whole, showing why the specification fails to enable one of skill in the art to make and use the claimed invention. *In re Angstadt*, 190 U.S.P.Q. 214, 219 (C.C.P.A. 1976). The mere fact that some experimentation is necessary does not negate enablement as long as undue experimentation is not required. *See* M.P.E.P.§ 608.01(p).

The burden is on the PTO to establish that experimentation would be undue, *Angstadt*, 190 U.S.P.Q. at 219, taking into consideration factors that have been articulated for determining whether the disclosure is enabling. *In re Wands*, 8 U.S.P.Q.2d 1400, 1404 (Fed. Cir. 1988). Contrary to the assertions outlined in the Action, Applicants submit that the amount of experimentation which may be required to practice the present invention does not rise to the level of being *undue* experimentation, as defined by the Court in *Wands*.

An important aspect of the Court's decision in *Wands* is its finding that the nature of the technology pertinent to the Wands invention (monoclonal antibody production) permitted a *broad* definition of the term "experiment". The Court found that an "experiment" in the monoclonal antibody art consisted of the entire attempt to make a monoclonal antibody against a particular antigen. As described by the Court, the process entailed, "immunizing animals, fusing lymphocytes from the immunized animals with myeloma cells to make hybridomas, cloning the hybridomas, and screening for antibodies produced by the hybridomas for the desired characteristics." 8 U.S.P.Q. 2d at 1407. Thus, *Wands* supports the conclusion that in a complex

field such as monoclonal antibody production, the entire attempt to achieve the desired result, from beginning to end, constitutes *one* experiment.

According to the Court, repetition of this whole experiment more than once does not constitute undue experimentation. As the Court indicated, practitioners in the art would be prepared to screen negative hybridomas in order to find a hybridoma making the desired antibody. 8 U.S.P.Q.2d at 1406. Thus, the fact that some aspects of the experiment as a whole will yield negative results does not mandate finding that the amount of experimentation to achieve a positive result is undue.

Applied to the instant application, the generation or identification of variants of the sphingosine-1-phosphate lyase polypeptide having the sequence set forth in SEQ ID NO:8 and, further screening to identify those variants that retain lyase activity, may require some experimentation. Viewed in the light of *Wands*, however, this experimentation cannot be considered "undue", even allowing for the possibility of encountering negative results along the path to positive results. Furthermore, relevant techniques are known in the art and referred to by the present specification which provides extensive guidance to allow the skilled artisan to identify variants of the recited SEQ ID NO:8 (see, for example, page 9, lines 1-22 and page 12, line 20-page 14, line 8) and to identify those variants that retain lyase activity (see, for example, page 11, line 8-page 12, line 19 and Examples 1-2, pages 30-35).

Accordingly, Applicants submit that the quantity of experimentation necessary is not excessive given the amount of permissible routine screening that would be involved, as described above. As also discussed above, more than ample amounts of direction or guidance are presented with regard to identification of variants of SEQ ID NO:8, and to determination of whether any such variant possesses sphingosine-1-phosphate lyase activity, which can be detected readily through the use of methodologies known to the art and disclosed in the specification. Particularly where, as here, the level of skill in the art is high, with practitioners typically holding a Ph.D. or the equivalent, Applicants submit that the skilled person can readily ascertain whether or not a given polypeptide has at least 70% (or 90%) identity to the sequence set forth in SEQ ID NO:8, and whether such polypeptide possesses sphingosine-1-phosphate lyase activity, given the instant specification.

In view of the above remarks, Applicants submit that the claims are enabled and respectfully request that the rejection under 35 U.S.C. 112, first paragraph be withdrawn.

Double Patenting

Claims 4-6 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 11-12 of copending Application No. 10/197,073 and claims 11-12 of copending Application No. 10/286,175. The Action contends that, although the conflicting claims are not identical, they are not patentably distinct from each other.

With regard to the rejection over Application No. 10/286,175, Applicants respectfully submit that claims 11 and 12 were canceled in a preliminary amendment to that application filed October 30, 2002. Accordingly, Applicants submit that the rejection may be properly withdrawn.

With regard to the rejection over 10/197,073, Applicants respectfully request that the rejection be held in abeyance until allowance of the instant application. While in no way admitting that claims 4-6 are obvious over or anticipated by the claims of U.S. Patent Application Nos. 10/197,073, upon allowance of the claims of the instant application, Applicants will consider filing a preliminary amendment canceling claims 11 and 12 in Application 10/197,073 or a terminal disclaimer in the instant application.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Applicants respectfully submit that all the claims remaining in the application are now believed allowable. Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,

SEED Intellectual Property Law Group PLLC

Julie A. Urvater, Ph.D., Patent Agent
Registration No. 50,461

JAU:tt

Enclosure:
Postcard
Copy of ADS as originally filed

701 Fifth Avenue, Suite 6300
Seattle, Washington 98104-7092
Phone: (206) 622-4900
Fax: (206) 682-6031

438886_1.DOC